expected to occur. Both LEC and non-LEC comments submitted September 30, 1992, in response to the FCC's request for supplemental comments in Docket 89-79 fundamentally confirm this fact. Thus, the Commission's clearly-articulated policy objectives for ONA[16] require that these tariffs be eliminated and that new guidelines and new tariffs be developed before ONA can go forward.

Steps required to remedy the existing problems with ONA tariffs and cost support.

We also discussed how the FCC ought to develop, if possible, alternative procedures for dealing with future new services to the extent that the existing processes do not allow meaningful tariff review by interested parties. Part of the solution, of course, would be to allow parties that are willing to execute strict non-disclosure agreements to have access to the material deemed by the FCC to fall within the FOIA exemption. Even the limited data review that we have been afforded by Bellcore shows a number of areas where more consistency in the cost support documentation is needed in order to fulfill the intent of the Docket 87-313, 89-79 and BSE TRP orders. The FCC should specify certain guidelines for making new services cost support data more uniform and comparable. The guidelines would, in effect, comport with generally recognized principles for making rates reflecting real economic costs. The LEC would not be bound to follow these guidelines, but it would be required to highlight specifically each instance where it had elected not to use the guidelines for its own economic cost study, and would have to explain, point-by-point, why the method it used should be preferred by the FCC.

From the discussion above, we can identify five types of guidelines that would prevent the "flexible, cost-based" approach from becoming rate deregulation in disguise:

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16. In the current circumstances, the ONA tariffs, with their minimal cost support and massive differences in rate structure, rate levels and nomenclatures serve only to *rob* the FCC of its basic jurisdiction over interstate offerings. As the Commission noted, "Critical policies, such as ensuring the nationwide availability of enhanced services, underlie our decision to exercise jurisdiction over interstate BSEs....Federal tariffs for ONA services are also likely to spur more national uniformity in nomenclature, terms and conditions and rate structures for ONA services...such uniformity would facilitate the provision of nationwide enhanced service offerings." Filing and Review of Open Network Architecture Tariffs, *Memorandum Opinion and Order on Reconsideration*, CC Docket 88-2, phase I, FCC 90-134, May 8, 1990, at para. 44. Obviously these objectives have not been satisfied.

1. LECs should as nearly as possible utilize the actual mix of switch facilities and other resources that will be used to provide the service. If the economic costs of an unbundled service are built by the software on top of equipment and facilities (such as trunk or line termination costs), whose costs are reflected in another residually priced rate element (such as the costs that are residually recovered by the BSA in the ONA tariffs), the economic cost study should be adjusted to remove those underlying costs.

2. For all of the reasons discussed above, it is extremely important that the economic cost studies also reflect the actual capacity conditions, probabilities of exhaust, plant utilization factors and assumed levels of breakage. A three-year facilities planning period most accurately captures the LEC's ability to forecast how a new service offering will impact its switch or other resources. The cost of the service should be limited to actual data showing either that new capacity additions would be required to provide the service or that facility additions would be advanced in that period in a manner that is causally related to the service in question. Since the LEC's resources are used in common for local, long distance, access and nonregulated services, it is important that a consistent set of assumptions be applied with respect to demand for both new and existing services.

3. When calculating unit investment costs through a program like SCIS is authorized, the FCC guidelines should specify usage of engineered, furnished and installed (EF&I) investment inputs. This is the way most major hardware and software are actually provided by vendors, and it is the way in which the vast majority of SCIS cost outputs that I have reviewed in state jurisdictions are configured. Differences between "material" prices, used by some LECs, and EF&I prices should be accommodated, where necessary, through a separate loading factor.

4. The development of loading factors should be shown in steps, with the underlying values. In these and other areas, the FCC should consider requiring that a responsible officer of the local exchange carrier submit a certification that the loadings applicable to the service in question are the same as those applied to other services that utilize the same resources, e.g., digital central office switches.

5. While its not clear from the Andersen analysis whether the multiple versions of

SCIS used by the BOCs had any consequential effect on the extreme pricing discrepancies among different carriers, this issue could be addressed more efficiently by requiring each LEC to utilize the most recent SCIS version applicable to their current or three-year planned network configuration. This type of approach would reduce the need to have an outside firm perform some sort of a "review" or series of sensitivity studies. Bellcore should also attest that all copies of a SCIS version available to an BOC are identical.

Conclusion

For all the reasons stated above and in the attachments to this memo, the issues posed by the Bureau with respect to the November 1991 ONA tariffs cannot be addressed within the scope of the cost documentation supplied by the BOCs, including the heavily censored material concerning SCIS made available despite the carriers' stringent non-disclosure terms requirements that we accepted. Thus, in conjunction with the already-limited functionality associated with BSEs actually tariffed by BOCs, the confusion associated with vastly different rate levels and pricing practices means that ONA largely cannot be useful to Committee members. The "flexible, cost-based" approach to BSE pricing that the BOCs recite as a totem, has been subverted to the point where the underlying FCC policies adopted in Computer III and ONA no longer exist in practice. Thus, The current ONA tariffs should be eliminated. New guidelines and new tariffs must be developed before ONA can go forward.

ATTACHMENT A

ANALYSIS OF THE EFFECT OF REDACTIONS IN ARTHUR ANDERSEN REPORT

The Appendices to the Arthur Andersen independent review report are, in many ways, more central to analysis of the LECs' costing and ratemaking practices than the text of the report itself. The report text itself contains a significant amount of general background information concerning open network architecture, the BSA/BSE pricing structure and the material submitted by the carriers in their original November 1991 tariff supporting material, including the tariff review plan forms that revealed the vast differences in the carriers' cost development and pricing values. This information does not directly pertain to the issues designated for investigation in this proceeding, however.

Andersen confines its analysis primarily to the way that the SCIS and SCM tools are constructed, maintained and documented. Its primary conclusion is that these aspects of the tools are reasonable. This should be the expected conclusion, since tools such as these have been used for years and, in fact, no party to this investigation has alleged that the tools simply are fictional.

However, Andersen's narrow focus is not sufficient to validate the LECs' specific ratemaking techniques, and Andersen correctly notes as much in its report. Thus, the principal utility of Andersen's analysis in terms of the FCC's designated issues — and the key issues concerning the justness and reasonableness of the filed rates — is as a *starting point*. Parties that wish to go farther and evaluate actual ratemaking practices should be able to utilize the Andersen report as part of their analysis. Unfortunately, the Andersen report and particularly the appendices thereto have been provided to parties with such extreme redactions (even if the parties signed Bellcore strict non-disclosure agreement), that this type of *ratemaking* analysis is impossible. Accordingly, the table below summarizes some of the more pertinent omissions in the Andersen appendices:

Attachment A
Effect of redactions in Arthur Andersen report

ANDERSEN DATA	NATURE OF LIMITATION ON ANALYSIS
Appendix 1 - Sensitivity analysis summary.	SCIS version / generic information is withheld, therefore these differences cannot be traced through other analyses. Plant utilization factors (PUF) are withheld, eliminating both benchmark comparisons and tests for reasonableness of carriers' assumptions compared to other rates and tariffs.
Appendix 2 - Proposed work plan for independent review; and Appendix 3 - Intervenor letters.	General background information that has no direct bearing on results of the Andersen review or the reasonableness of LEC ratemaking practices.
Appendix 4 - Input parameters.	The entire appendix is withheld. This is an important omission. The SCIS documentation provided by Bellcore also contains illustrative examples of how various algorithms are utilized. (We were provided with the documentation for the 5ESS host/remote and ISDN configurations). While there is no requirement that an LEC must use the same values shown in the illustrative examples, the LEC has the burden of demonstrating that its chosen input values are themselves accurate and complete, and match the values that would be used in ratemaking for competitive enhanced services offered by the LEC or other services that utilize SCIS-based investments, such as Centrex, CLASS services, local usage costs, and other monopoly services. For examples of illustrative SCIS calculations that are blacked out in Bellcore's documentation, see, e.g., 5ESS documentation, pp. B26, B32, C3, D9 ff, and E4-E6.

Appendix 5 - Feature parameter tables.	The four features analyzed by Andersen are masked out, even though this information is shown elsewhere. This appears to be one of several examples of inconsistent redactions.
Appendix 6 - Feature investment equation AD (multiline hunt group with uniform call distribution).	Generally the same types of investment equations are blacked out in this appendix and in subsequent appendices as those blacked out in Bellcore's underlying SCIS documentation. Thus, there is no way to even begin to analyze whether Andersen's representation of the equations and values used match information in the Bellcore material. Equally significant, because intervenors were not supplied by Bellcore with its documentation for each type of switch technology and each switch manufacturer (our information was limited to AT&T products), the masked material in this and the following appendix sections is the only possible source of comparisons between switch technologies. For each carrier, the only items that are not blacked out are the resulting unit investments. *See*, e.g., Appendix 6, pp. 6.4, 7, 9, 11, 13, 17, 19 etc. Because this value exhibits the same range of variation which, in part, prompted the FCC's investigation in the first place, the mere availability of these values does not in any way add to our ability to evaluate the issues designated for investigation in Docket 92-91. As noted with respect to Appendix 4, these redactions in combination with the censored illustrative equations in the Bellcore documentation make it impossible to perform any

	independent checks on the reasonableness of LEC values, even for carriers that used the 5ESS technology in part of their cost analysis.
Appendix 7 - Feature investment equation J (automatic number identification).	See notes regarding Appendix 6.
Appendix 8 - Feature investment equation W (multiline hunt group).	See notes regarding Appendix 6.
Appendix 9 - Feature investment equation R (make busy key).	See notes regarding Appendix 6.
Appendix 10 - DOPS report.	This appendix is omitted entirely. The digital order planning system is an AT&T-specific product used to broadly calculate the parameters associated with an LEC's order for a new switch. We cannot determine the significance of the data or of its being censored. Andersen might have stated in its report that DOPS was evaluated as an independent check on the reasonableness of the inputs selected by individual carriers for actual ratemaking purposes. However the report [p.46] does not indicate whether DOPS was actually used by Andersen or, if so, how it was used.
Appendix 11 - Model office cost categories.	This appendix is omitted entirely. The data are material to the issue of whether an individual LEC's use of SCIS conformed with, or departed from, model office specifications. Therefore, the omission of this appendix seriously impairs our ability to test the actual *ratemaking* practices of the LECs. And, as noted, because Andersen itself did *not* undertake to review or comment on

	the LECs' actual ratemaking practices in the ONA tariffs, the omission of this information effectively precludes intervenors from commenting upon several facets of the issues designated for investigation.
Appendix 12 - Partitioning.	All of the partitioning tables have been completely blacked out. The associated Bellcore SCIS documentation also is entirely masked (*see* 5ESS documentation, p. A13). These omissions are material for the same reasons noted with respect to Appendix 11: Examining how the model office values are developed and used might provide some sort of added check on the values selected by individual LECs with respect to their own office configurations. This level of analysis is not shown in the Andersen review itself.
Appendix 13 - 1:1 SM termination costs.	This appendix is omitted entirely. Switching module termination costs are important drivers of parts of the SCIS processes. In the context of BSA/BSE tariffs, it is particularly important to examine how termination costs are produced in SCIS default configurations and then to compare these values to each LEC's own cost results. SCIS termination costs may drive some calculations used by individual BSEs, but in the ONA tariff context, the basic access arrangement, (BSA) is priced residually based upon fully-distributed interstate revenue requirements and various subsidy components. Given this ratemaking treatment, it is important that switch termination cost drivers for the BSEs not be set so as to mimic costs that would be recovered under the ONA BSA. While this form of "double-recovery" is not the most important costing issue

	facing the FCC, in that the BSA *is* set residually, the relationships among individual LEC's calculations of termination costs is vitally important to test the reasonableness of their ratemaking practices. The censored data prevents this assessment entirely.
Appendix 14 - Unit investment equations.	Each of the six equations, along with the definitions of certain key variables, is blacked out. The issue raised here is how the particular equations included by Andersen in this appendix relate to the equations shown in the Bellcore SCIS documentation. Of course, the Bellcore equations also are masked, as are the illustrative examples of the equations noted above. However, it appears that there are many *more* unit investment equations documented in the Bellcore material than the six equations shown in this appendix. Therefore, it is impossible to determine whether the Andersen examples are, in fact, representative of the equations used by individual LECs.
Appendix 15 - SCM LRIC and LRIC average.	This appendix consists solely of a generalized discussion of how various types of capacity constraints affect the incremental cost results for the US West costing tool. The discussion also applies to the same aspects of capacity costs and equipment "breakage" that are highly pertinent to the LECs' use of SCIS. None of this appendix is blacked out, but without the more specific information in Andersen appendices and report, which are all censored, this generalized discussion cannot be used to evaluate the reasonableness of the ONA tariffs.
Appendix 16 - Nevada Bell	The values of specific inputs used by Nevada Bell

example.	are redacted, meaning that this example cannot be used for any analytical purposes.
Appendix 17 - Symposium on marginal cost.	The paper on SCIS techniques reproduced here provides useful background information for persons who have no previous experience with SCIS or incremental costing in general. It also reaffirms the importance of LEC assumptions about demand and available capacity, but the paper does not provide any independent basis to evaluate those assumptions or the LECs' data.
Appendix 18 - BOC background.	This appendix provides a useful summary of some of the differences in the way the individual LECs used SCIS or SCM. However, because other information has been so broadly withheld even from parties that signed the non-disclosure agreement with Bellcore, these comparisons provide no independent basis for analysis. For example, it would be useful for Andersen to have reported which factors caused individual carriers to use different versions of SCIS shown in Appendix 18. Andersen, however, does not attempt to provide this type of background information and thus neither the FCC or intervenors can determine whether the selected versions of SCIS by different LECs is reasonable even in qualitative terms. Of course, the quantitative effects of different SCIS versions have been entirely withheld.
Appendix 19 - BOC investment loadings; Appendix 20 - BOC annual charge factors; and	Appendix 21 is withheld in its entirely. The other two appendices include information at such a high level of aggregation that, in conjunction with the

Appendix 21 - Changes in software versions.	data blacked out, do not allow any meaningful analysis. Most important, Andersen states explicitly in its report that it "did not pursue these differences [in BOC investment loadings and annual charge factors] since it was not within the scope of the review." [Report, p. 82]. Thus, even Andersen's own conclusions do not provide a basis to approve the LECs' ratemaking factors.
Appendix 22 - Sensitivity analysis AD.	Key material that has been fully redacted include all references to the SCIS generic(s) used by individual LECs. This exclusion parallels part of the information censored in Appendix 1. The masking of the generic versions actually used by LECs in both this appendix and in Appendix 1 seems to be inconsistent with the information which was reported in Appendix 18; however, the analyst is left to speculate whether the SCIS generic versions shown in Appendix 18 are in fact the same ones referenced in Appendices 1 and 22. Appendix 22 also eliminates the sensitivity analysis information about vendor discounts and plant utilization factors. In both of these cases, not only are the LECs' assumed input values and Andersen sensitivity test input values generally blacked out, but, importantly, so are the *results* of these key sensitivity tests.
Appendix 23 - Sensitivity analysis J.	See notes regarding Appendix 22.
Appendix 24 - Sensitivity analysis	See notes regarding Appendix 22.

W.

Appendix 25 - Sensitivity analysis R.	See notes regarding Appendix 22.
Appendix 26 - Aggregation methods.	Current aggregation proportions used by the LECs generally are shown, although the switch types associated with those percentages are not given. However, all weightings associated with the actual 12/31/91 period and with the future planning are blacked out, along with the associated switch types. The latter information, particularly the data for the fixed reference point in time, 12/31/91, represent key ratemaking data, because only in reference to the fixed point in time can the percentage weightings used by the individual LEC but evaluated as to its reasonableness.
Appendix 27 - Technology mix sensitivity.	Absent the information that is redacted in Appendix 26, these results have little independent value. The Andersen calculations do demonstrate that the assumed mix of switch technology has a greater effect on some of the studied BSEs than on others, and that the impact of digital switchers is larger, as would be expected.

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